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언론정보학과석사학위논문

**How Review Quality and Reviewers' Photos
Affect Consumers' Evaluations of
the Product and the Website**

: The Moderating Role of Product Type

온라인 상품평의 질과 상품평 작성자의 사진이
상품 및 쇼핑몰에 대한 소비자 평가에 미치는 영향
: 상품 유형의 중재 효과

2012년 8월

서울대학교 대학원

언론정보학과

신 수 연

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: The Moderating Role of Product Type

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이 논문을 언론정보학 석사학위논문으로 제출함

2012년 6월

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논문제목 : How review quality and reviewers' photos affect consumers' evaluation of the product and the website: The moderating role of product type

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Abstract

This study aimed to elucidate the effects of review quality and reviewer representation in forming consumer's attitudes. In so doing, if, and if so, how product type varies the effects of those two factors was also explored. In order to answer these questions, a 2 (review quality: high vs. low) x 2 (reviewer representation: photos vs. abstract figure) x 2 (product type: experience vs. search) between-subject experiment was conducted online. The product reviews used were mostly positive toward the target product. First, participants who read high quality product reviews evaluated the reviewers, product and seller website more positively than those who read low quality reviews. Second, reviewers' profile photos did not evoke higher or lesser social presence than abstract figures did. Likewise, there was no difference in evaluations of reviewers, product, and website between photos and figures. However, photos made people more likely to differentiate high quality reviews from low quality reviews, with high quality reviews eliciting more positive website evaluation than low quality reviews. In addition, photos hindered correct recognition of product descriptions (information given by the seller), although they did not significantly alter the recall of review content (information given by the reviewers). Third, product type interacted with review quality, but not with reviewer representation. For search goods, which refers to the products whose quality is easily predicted before purchase, high quality reviews significantly increased purchase intention. However, the effect of review quality was not found for experience goods, which are defined as the products whose values are hardly assessed before firsthand experience. Theoretical and practical implications of these results were discussed.

Keywords: product review, e-commerce, review quality, reviewer photo, product type, consumer evaluation

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Introduction

Online transactions have progressed at a fast rate, becoming a significant part of everyday lives. In fact, in Korea, the total value of e-commerce transaction amounted to 999,250 billion wons in 2011, which reflects nearly a threefold increase from 2005 (358, 450 billion wons) (Statistics Korea, 2011). Given this level of growth, it therefore has become an important issue not only for sellers but also for researchers that which factors of online shopping malls can attract consumers' attention and affect their purchase decision. As a distinctive advantage of online shopping compared to offline transactions, other consumers' product reviews have been one of the most influential sources we rely on for making a decision to buy a product online (Hu, Pavlou, & Zhang, 2006). Sometimes, others' enthusiastic reviews can lead people to think of buying a product which has never been considered as necessary. At the same time, negative reviews can discourage people from buying a product they have long desired. Whether it is delivered through an e-commerce site, online communities, bulletin boards, or social networking sites, consumer feedback helps people to "learn about the experience of others and is an important predictor of product adoption" (Huang, Lurie, & Mitra, 2009, p. 58).

Given its importance, a large body of research has examined how product reviews affect product evaluations and/or the purchase intention. Most prominently, the quantity of reviews has been found to positively affect people's willingness to buy the product (Chavalier & Mayzlin, 2006; Duan, Gu, & Whinston, 2008). That is, the sheer number of reviews is taken as an indicator of the product's popularity or its value to potential customers.

However, there still exist other important elements of reviews that should be considered. The present study specifically focused on two factors, review quality and reviewer representation. First, this study aimed to revisit the roles of review quality and extend previous studies by exploring the effects not only on the

direct product evaluation, but also on the source evaluation, including reviewer and mall evaluation. Park, Lee, and Han (2007) showed that high quality reviews are more likely to exert greater influence on purchase intention than low quality reviews. Albeit informative, however, considering the possibility that message evaluation tends to be transferred to source evaluation (Luchok & McCroskey, 1978), the previous research seems to have overlooked potentially greater implications that review quality might have concerning reviewer and mall evaluation. Since reviewer evaluation might exert certain influence on persuasiveness of the review, and the impression of the website might have long-term effects on the competitiveness of the mall among numerous similar e-commerce sites, it seems worthwhile to examine how review quality would affect them.

Second, this study explored the possibility if, and if so, how the presence of reviewers' photos makes any difference in the way their messages are processed. Considering that (1) 24.7% of Internet users in Korea reported that they post a comment on other sites using their SNS accounts more than once a month (Korea Internet & Security Agency, 2011), and (2) Facebook users who participated in a survey mostly had profile photos showing the user either alone (49.4%) or with others (36.6%) (Strano, 2008), the trend of attaching own photo to a feedback is apparently growing, and thus its effects seem worth exploring. Unlike brick-and-mortar stores, online shopping malls lack the sense of human contact (Hassanein & Head, 2006), which can be partly accountable for the credibility issue of e-commerce. Thus, in attempts to compensate for the deficiency, researchers have incorporated avatars, photos, and/or video clips of the seller, and they were found to be effective in increasing the credibility or satisfaction of the mall (Holzwarth, Janiszewski, & Neumann, 2006; Aldiri, Hobbs, & Qahwaji, 2008). If vivid representation of the seller can evoke positive attitudes, reviewers' photos may exert similar influence on peoples' evaluations of them, as well as those of the product and the purchase intention. In addition, reviewers' photos might also

affect the consumers' recall of product information.

Lastly, this research explored the possibility that product type (search goods vs. experience goods) might moderate the effects of review quality and reviewer representation. Search goods are the products whose quality can be easily evaluated before purchase, whereas experience goods are the products whose quality cannot be easily assessed before firsthand experience. Specifically, this study pitted two possibilities against each other concerning the effects of review quality. On one hand, product reviews can be more valuable for consumers seeking experience goods than search goods, therefore making them more motivated to scrutinize the messages. Accordingly, high quality reviews may exert greater influence on consumers' attitudes for experience goods than low quality reviews, whereas such difference may not appear for search goods. On the other hand, consumers might have different expectations or perceptions about the value of the reviews for each product type; that is, the reviews for search goods are likely to be expected to deliver additional objective, factual knowledge of the product, while the reviews for experience goods are inherently less capable to do so. Thus, consumers may be less motivated to analyze the quality of reviews for experience goods from the beginning, possibly giving more credits to other aspects of reviews such as general favorability toward the product. In addition, reviewers' photos may exert greater influence in experience goods than search goods, by enhancing the vividness of the experience being described in the reviews, therefore making consumers more susceptible to empathizing with reviewers' feelings. This effect is less likely to occur for search goods, since search attributes are easier to describe in text, therefore enhancing vividness may not be of importance for consumers.

In sum, this study aimed to elucidate the effects of review quality and reviewer representation in forming consumer's attitudes. In so doing, if, and if so, how product type varies the effects of those two factors was also discussed.

Literature Review

Effects of review quality

There is a huge variance in the quality of online product reviews. While some reviews provide reasonable pros and cons of the product containing detailed and coherent information, others concern very minor or irrelevant aspects, which have little to do with the core quality of the product (e.g., “I don’t like the color of texts in this math workbook.”) or merely repeat the reviewers’ feelings without supporting evidence (e.g., “I love this product. I really think I’m so lucky to have this.”). This variance in review quality might affect not only product evaluation, but also the evaluations of the reviewer as well as the online shopping mall.

First, according to Luchok and McCroskey (1978), people tend to evaluate the communicator on the basis of the quality of the message delivered. Specifically, they compared the responses to five messages with varying quality of evidence concerning the US medical care issue. For example, one message contained relevant and credible evidence, whereas the other contained irrelevant and doubtful evidence. Then, participants read one of five message delivered by highly credible author (a student at Princeton University who has work and research experience concerning medical care), and moderately credible author (a high-profile politician of the Communist Party). Results showed that both authors were rated negatively in competence and character assessment, when their messages contained irrelevant and doubtful evidence.

Slater and Rouner (1996) showed a similar finding. In their experiment, participants first read source information explicitly indicating either high or low source expertise (e.g., professor vs. office-supply clerk) or either high or low bias (e.g., someone funded by the lobbying group vs. independent writer). Then, participants rated on how expert/biased they expected the author to be on a certain topic (e.g., Saudi-Arabian women as a social group topic, electric cars as a technology topic), which was used as the measurement of initial source evaluation.

After reading the author's argument about the topic, which was made to be moderately incongruent to the beliefs of the study population (i.e., college students), participants indicated the perceived message quality and re-evaluated the author (subsequent source evaluation). As a result, perceived argument quality directly and independently predicted subsequent source evaluation, and argument quality was not significantly determined by initial source evaluation for technology topics. For social group topics, argument quality partially mediated the relationship between initial and subsequent source evaluation. In summary, these findings likewise suggest that when people perceive the message as well-written, they are likely to apply the positive impression to the communicator as well.

A meta-analysis also concluded that although language intensity (specificity and opinionatedness) initially had a negative impact on source evaluation, when the message quality was high, source competence and trustworthiness were higher even with intense messages (Hamilton, 1998). Given these previous findings, product reviews containing sensible reasoning and relevant evidence are likely to make people rate the writers more positively.

H1-1. People who read high quality reviews will evaluate the reviewers more positively than those who read low quality reviews.

Second, review quality might also influence how people evaluate the shopping mall website on which the reviews are posted. Although the direct source of a product review is certainly the one who wrote the review, people might also consider the website as another source of the reviews in a broader sense. With respect to the definition of source, Sundar and Nass (2001) argued that there exist three types of sources in current media environment. The first type of source is sender or presenter. In the case of product reviews, reviewers are the direct presenter. The second type is medium or channel, which transmits the messages to audience. In the present study, the mall website can be regarded as

the medium, in that it provides the space for posting reviews. Third type is receiver or audience, which pertains to the “active audience” who set criteria and tendency to consume web contents. Of particular interest here is the second type of source. That is, the mall may benefit from the perception that it provides the space and opportunity for helpful information to be distributed to uninformed consumers. This possibility pertains to the concept of product diagnosticity. Product diagnosticity refers to “the extent to which a buyer believes that a website is helpful in terms of evaluating a product” (Pavlou, Liang, & Xue, 2007, p. 117-118). According to Pavlou et al. (2007), this factor was found to mitigate the perceived uncertainty of the seller website. They distributed the online survey material to randomly selected online consumers, and the material instructed participants to visit certain book-selling website or drug-selling website and then evaluate them in terms of perceived uncertainty. Results showed that high product diagnosticity decreased the fear of seller opportunism (e.g., quality cheating, contract default) for both websites. Considering this result, if consumer feedbacks are considered as a part of information in evaluating certain product offered by the website, albeit remotely, the difference in perceived usefulness of information may affect the website evaluation as well: that is, high quality reviews is likely to exert positive influence on mall evaluation, whereas low quality reviews exert negative influence.

H1-2. People who read high quality reviews will evaluate the mall more positively than those who read low quality reviews.

Third, high quality reviews may lead the consumers to evaluate the product more in line with them. Since high quality arguments have more specific evidence which is relevant to the core issue, by definition, it is reasonable to assume that high quality reviews would be more persuasive, which means greater agreement with the reviewer’s product evaluation in this context. Moreover, if attitudes are highly related to the intentions to perform certain behavior, as the

theory of planned behavior (Ajzen, 1985, 1987) posits, it is likely that once people agree with the reviewer's opinion on a certain product, they will make their purchase decision based on their attitudes toward the product shaped by reviews.

In fact, Park et al. (2007) conducted an experiment comparing low quality reviews and high quality reviews for a PMP. High quality reviews were relevant to the product, easily understandable, and contained sufficient evidence based on facts, whereas low quality reviews mostly expressed subjective feelings without supportive evidence. All the reviews used were positive toward the product and the length of both reviews was set to be similar. They found that people who had read high quality reviews showed higher purchase intention of the product. Cheung, Lee, and Rabjohn (2008) observed the similar tendency in the survey within an online consumer community which offers rankings and feedbacks concerning restaurants in Hong Kong. They particularly examined which factors can affect the extent to which consumers are willing to adopt online product reviews. Survey results revealed that argument quality such as relevance and comprehensiveness affected the perceived usefulness of the reviews, and information usefulness strongly affected the review adoption. Also, Hur, Ryoo, and Jeon (2009) conducted a similar survey recruiting online consumers using top 10 e-commerce sites in Korea, and found consistent results. Specifically, when the reviews contained product-relevant information comprehensively, coherently, and correctly, consumers evaluated the reviews as useful, and useful reviews increased the review adoption in product evaluation, and purchase intention. Based on the previous research, it was hypothesized that high quality reviews will exert greater influence on product evaluation and purchase intention than low quality reviews

H1-3. High quality reviews will have a greater impact on participants' product evaluation than low quality reviews.

H1-4. High quality reviews will have a greater impact on participants' purchase

intention than low quality reviews.

Effects of reviewer representation

Another element of product reviews that might affect people's reactions pertains to how the reviewer is represented. In the early days of computer-mediated communication, the Internet was largely dependent on text-based communication, and thus conceived as less suited for socio-emotional communication (Walther & Parks, 2002). However, some researchers suggested that textual cues can also sufficiently enhance the socio-emotional communication in CMC. For example, Gunawardena and Zittle (1997) observed that during an online academic conference, students used emoticons to compensate for the missing nonverbal cues, thereby enhancing their learning satisfaction. Nowadays, thanks to the expanded channel capacity and other technological development, pictures, audios, and even videos have become widely available, making it much easier to feel the direct presence of the interaction partner. This feeling of "non-mediation" (Lombard, Reich, Grabe, Bracken, & Ditton, 2000), which refers to the situation where a person "fails to perceive or acknowledge the existence of a medium" (p. 77) although the interaction is in fact taking place through a medium, can lead to the salience of the partner in the communication context.

There are various ways of representing reviewers online which might affect the degrees of perceived presence of the reviewer. For example, Amazon (www.amazon.com) only shows reviewers' id. Goodreads (www.goodreads.com), which is a large book review community, use profile photos, or any pictures uploaded by the reviewer for each post. One of the largest online shopping malls in South Korea, 11st.co.kr (www.11st.co.kr) has the "social comment" section for product review, on which reviews are uploaded through the reviewers' social networking sites account. Considering these examples, it seems worth exploring how the product reviews with different representation of the reviewer might affect consumers' perceptions of the reviews and the target product. In an attempt to

address this issue, this study chose to compare profile photos of reviewers with default abstract figures (exclamation mark), since those two are at opposite extremes of detailed representation of reviewers. In addition, given the increasing popularity of social networking services and their linking with other Internet services, it seems particularly interesting to investigate the effects of profile photos in the e-commerce context.

First of all, there might be a difference in perceived presence of the reviewer between photos and abstract figures. On one hand, the reviewer's photo may evoke more vivid images of a real person behind the computer screen, leading to higher social presence than abstract figures do. Choi, Miracle, and Biocca's findings (2001) lend support to this possibility. Their study concerned the effects of an anthropomorphic agent on an advertising website for apparel. Specifically, the agent they used had a voice, and showed human-like behaviors such as head nodding, waving hands, and moving arms. Compared to textual advertising, the anthropomorphic agent evoked a stronger sense of social presence, thus increasing the likability of the advertisement. Here, social presence was defined as "the degree to which a user feels access to the intelligence, intentions, and sensory impressions of another" (p. 19). Gong (2008) provided similar finding that as the computer agent becomes more human-like, people felt higher sociability of the agent. Specifically, he compared the four levels of anthropomorphism including real human photos as the ideal level. In the experiment, participants were asked to choose a preferred solution for dilemma scenarios (e.g., marriage, career choice), and the computer agent with its choice was presented in the screen when choosing an option. Results showed that real human photos were perceived as more personal, sociable, sensitive and warm compared to other forms of agent, such as humanoid robots, or computer-synthesized human face.

Although it might sound intuitive that the more humanlike the source becomes, the higher social presence it brings, there also exists some counterevidence. In Nowak and Biocca's (2003) study, participants were given

the task to get to know the potential future team member, and the partner was shown by either an avatar (more-anthropomorphic vs. less-anthropomorphic) with a human voice or voice alone with no image. Results showed that those who saw a less-anthropomorphic avatar (eyes and a mouth) felt higher social presence than those who saw a more-anthropomorphic (a human-like face in a complete form) avatar or no image at all. Social presence here referred to the extent to which the interaction assimilates a face-to-face meeting.

Kang, Watt, and Ala's (2008) study also adds more evidence to this counterintuitive possibility. In their study, each participant was paired with another participant, and discussed on a hypothetical scenario where one of them wants a roommate and see if the conversational partner could be the one. The partner was presented by either a static image (real human face vs. sketchy human face vs. human-like avatar) or video (same three conditions as for static images). Results indicated that the real human face evoked less feeling of face-to-face interaction compared to the sketchy human face, and this pattern emerged both for static images and videos, although the difference did not reach statistical significance. Given these results, it seems questionable whether photos of reviewers, which are at a very high level in human-likeness, indeed increase perceived social presence.

RQ2-1. How does the addition of profile photos affect the level of social presence?

Second, the provision of the reviewers' profile pictures might positively affect the source evaluation. First, by viewing a photo of a communication partner, the readers may feel like they know the person, and therefore feel higher intimacy, which might lead to other positive impressions. Walther, Slovacek, and Tidwell (2001) observed that seeing a photo of the previously unacquainted collaboration partner increased the intimacy and social attraction than merely

seeing the partner's name. However, when online team members have worked together for a long time, partner's photo instead decreased affinity toward the partner. In the case of online product reviews, it is high likely that reviewers are new, unacquainted people to consumers, therefore their profile photos are expected to increase likability. Tanis and Postmes (2007) also provided similar evidence. During the discussion on several local issues (e.g., building a new airport), when the picture and first name of the discussion partner were shown, participants evaluated the partner as more positively than when there was no information about the partner. One thing to be noted is that the partner was a computer so that there was no variance in partner's opinions, although the participants were told that they would interact with another participant. Bente, Ruggenberg, Kramer, and Eschenburg (2008) similarly showed that people interacting with the partner through a text-only channel felt less intimacy than those used audio, video, or avatars as they collaborated on choosing the best job candidate. In short, given these previous studies, photos are likely to heighten social attractiveness of the reviewers previously unknown to the consumers.

Next, seeing profile photos of reviewers might serve as an insurance suggesting that the reviewers are telling the truth, since there is high risk of identity exposure. Although it is not likely that the readers will remember who told what in reviews, at least when they read the reviews, they may consider the reviews with profile photos more trustworthy, which can lead to higher credibility of the writers. In support of this possibility, Rains (2007) found a tendency that identity cues such as first name leads to higher source credibility than no cues. To be specific, participants were recruited as a team, therefore they knew each team member. However, during the experiment, a confederate replaced one team member, and this fact was unknown to other team members. Participants were then assigned to either technical anonymity condition (alias), or identified condition (first name), and asked to engage in a discussion on an ethical dilemma. After the discussion ended, they evaluated the confederate's credibility, and indicated the extent to

which the confederate was perceived anonymous. Those participants in the technical anonymity condition who perceived the confederate to be more anonymous evaluated the confederate as less credible. This result suggests that people value accountability, and thus tend to respond favorably to those who seem to be willing to take the responsibility.

Cesney and Su (2010), however, found contradictory results in their experiment varying the level of anonymity of the blogger. Participants who read a blog post with more information of the blogger (photo, name, sex, age, email address) did not evaluate the blogger more or less credible than those who read a blog post with less information (alias, sex, age), or no information at all (alias alone). This result, however, might be attributed to the type of issue the blog post was concerned with. Since the topic was a medical problem which requires a certain level of expertise, the readers could have focused more on the quality of content than the source identifiability. Thus, insofar as the target product does not require high expertise, reviewers' photos might exert positive influence on reviewer evaluation in that they may enhance credibility of the reviewers.

H2-1. People who read reviews with profile photos will evaluate the reviewers more positively than those who read reviews without profile photos.

Third, the mall might also appear to be more credible with the reviewers' profile photos. First, consumers might perceive the mall favorably because reviewers seem to have trusted the website so that they voluntarily offered their pictures. According to Pavlou et al. (2007), there are several sources of uncertainty in online buyer-seller relationship, such as information asymmetry (e.g., hidden information to customers), fears of seller opportunism (e.g., contract default), information privacy concerns (e.g., using buyer's personal information without consent), and information security concerns (e.g., security breach by hackers). Given that the more risky it is, the more important the issue of

credibility becomes in commerce (Harmon & Coney, 1982), even a minor credibility cue can be particularly important in online shopping. In this regard, a reviewer's profile photo is expected to serve as a potential indicator of the websites' credibility.

In addition, although the mall is not the direct source of the reviews, it might also benefit from the photos of reviewers as a broader sense of source. In other words, the mall might seem to provide useful information to potential customers by making reviewers responsible for their feedbacks. Some previous studies employed the seller's photo to see if it is effective in increasing credibility of the mall website. Although they did not directly concern the effects of photos of reviewers, the following results can be understood as indicating the effects of showing accountability. For example, Aldiri, Hobbs, and Qahwaji (2008) found that incorporating still and video images of sales person increased initial trust of the mall website compared to having no photo. In addition, Riegelsberger, Sasse, and McCarthy (2003) observed that adding an employee's photo to the mall website reduced the difference in consumers' trust between high and low reputation e-commerce sites. Specifically, they used existing e-commerce sites in their experiment, and chose two high-reputation vendors and two low-reputation vendors based on the reputation ratings by external feedback-aggregating services. The chosen websites were manipulated to have either a photo of an employee or no photo. Results showed that in the photo condition, the trustworthiness of low-reputation vendors increased, whereas that of high-reputation vendors decreased. In contrast, in the no-photo condition, participants trusted the vendors with high reputation more than the ones with low reputation. This result raises a possibility that the photo of a vendor can compensate the lack of other credibility cue.

In short, by delivering product-relevant information such as reviews with accountability, the mall is expected to elicit positive responses. Therefore, this study posits that the reviewers' photos, as a hint for the established trust among previous customers, and the mall's good-will, will positively affect the mall

evaluation.

H2-2. People who read reviews with profile photos will evaluate the mall more positively than those who read reviews without profile photos.

Fourth, in relation to the previous discussion on source evaluation, it is likely that as the reviewers are perceived as more likable and credible by adding their profile photos, their opinions will be more effective in changing other potential customers' attitudes toward the product. Persuasion research in general supports that the more likable or credible the source is, the more persuasive it is (Eagly & Chaiken, 1993; Pornpitakpan, 2004). Even if the reviewer's photo does not elicit more positive source evaluations, it might still affect people's attitudes toward the product by reminding them of a real person. For example, more sensory information such as vocal cues of the person can make the audience imagine the person as a full entity. In Lee and Nass's (2004) study, people who listened to multiple voices reading each book review evaluated the book more positively and wanted to buy the book than the ones listening to single voice reading all reviews. This suggests that more individualized sensory cues such as profile photos can help people to imagine and know the source more fully, therefore increasing the persuasive effects of the message from the source. Kiesler, Powers, Fussell, and Torrey (2008) found that people interacting with the full-body humanoid robot tended to disclose less of their undesirable health habits and were more likely to follow its health advice than those who only saw the robot's head. This result implies that more social cues derived from a full view of the robot can prompt people to think of a real person, thereby making them more susceptible to the source's opinion. The present study therefore posits that the profile photos of reviewers will make consumers more susceptible to the effects of reviews.

- H2-3.* People who read reviews with profile photos will evaluate the product more in line with the reviews than those who read reviews without the photos.
- H2-4.* People who read reviews with profile photos will be more likely to have purchase intention in line with the reviews than those who read reviews without the photos.

Lastly, photos of reviewers may either attract the readers' attention to the text messages or distract them from the messages. On one hand, photos are visually compelling, therefore effective at attracting people's attention. Delp and Jones (1996) found that the text with pictures gained more attention and increased recall of health information compared to text alone condition. They presented printed instructions for treating wounds at home to patients, and the instructions were composed of either just text or the same text with cartoon illustration (e.g., a doctor holding a sunscreen). One thing that merits note is that they gave the instructions to patients after treatment in hospital, so that whether each patient read them or not was fully at their disposal. After three days from the experiment, the researchers asked the patients given the material if they had read it (attention), and if they had, the researchers asked several questions about the information (recall). Results showed that those who received the text with pictures were more likely to read it than those who received the text-only instructions, and once they read it, they were more likely to remember the information correctly than those who read textual instructions. Given this result, when reviews were presented with profile photos of people, people might be naturally more inclined to give their attentions to those messages, compared to when there are no such photos. However, the pictures used in Delp and Jones (1996) were closely related to the message, describing the text in the visual form. Therefore, profile photos of reviewers that are inherently detached from the main text might have different effects on recall than those illustrating the product information.

In fact, some studies suggest the attention on source representation might distract people from focusing on the text. Robert and Dennis (2005) argued that rich media may reduce the ability to process information comprehensively, partly because people may experience information overload. Considering that people have limited cognitive capacity (Lang, 2000), it seems plausible that as more information about the source is given, people may use their cognitive resources more on processing the source-related information, and therefore less on processing the messages delivered by the source. Stephenson, Ayling, and Rutter's (1976) study may help to predict this possibility. The aim of the research was to examine the role of visual information in social exchange. Particularly, they compared that face-to-face negotiation (one participant assuming the role of management, the other, union) with negotiation via headphone-microphone. Results showed that participants in the face-to-face condition tended to negotiate with the partner in a more personalized and less task-oriented manner, such that those in the face-to-face condition gave more praise to the opponent, and used less "party" references, and exchanged less offers of information relevant to reaching consensus. This result implies that when exposed to more social cues about the communicator, people do not necessarily assign their attention to the core message or task, but rather to the source itself. This relative lack of attention to the messages may lead people to recall less of the information in product descriptions and reviews.

Given these opposite possibilities for the effects of reviewers' photos on recall/recognition, the present study proposed the following research questions.

RQ2-2. How will profile photos of reviewers affect the recall of the reviews?

RQ2-3. How will profile photos of reviewers affect the recognition of product descriptions?

So far, this study has discussed two internal properties of reviews as major

determinants of their effects – the quality of reviews and reviewer representation. The effects of reviews, however, may also depend on some external factors, such as the type of the product. The potential effects of product type will be discussed mainly in conjunction with the aforementioned attributes of reviews.

Product type as a moderator

Nelson (1970, 1974) categorized products into two types based on the ability of consumers to evaluate the quality of the product before the first-hand experience. One type is search goods, which refer to the products whose information to estimate the quality with can be easily acquired before purchase. Examples of search goods used in the previous research are paper towels (Hoch & Ha, 1986), calculator (Senecal & Nantel, 2004), digital camera, cell phone (Mudambi & Schuff, 2010), computer printer (Weathers, Sharma, & Wood, 2007), and vitamin pills (Suwelack, Hogleve, & Hoyer, 2011). On the other hand, experience goods are the products whose quality is hardly assessed before the actual purchase and direct experience. The examples of experience goods include MP3 player, video game (Mudambi & Schuff, 2010), mattress (Weathers et al., 2007), wine (Senecal & Nantel, 2004), and computer software (Klein, 1998).

With the expansion of online shopping, however, it has become much more common to come across other consumers' experiences with a product. In the past, that kind of information was mostly acquired from the acquaintances and friends, but it is now easily found on the Internet once you type the product name or in the reviews on the shopping mall website. Klein (1998) referred to this act of obtaining experiential information as “virtual experience” or “vicarious learning (Murray, 1991)”. As such, one might expect that other consumers' reviews will be more instrumental in product evaluations and purchase decision for experience goods than search goods.

In fact, some researchers found that effects of reviews are more pronounced for experience goods than search goods. For example, Senecal and

Nantel (2004) reported that the propensity to select the product recommended by others was greater for experience goods (calculator) than for search goods (wine). In their online experiment, participants were invited to a website which introduced either four different calculators or four different wines, and asked to choose one product among them. During the selection process, participants were also presented with the recommendation of other consumers or human experts or recommender system. If they chose not to consult the recommender, they were assigned to the no recommendation condition. Regardless of the source of recommendation, participants were more likely to follow the opinion of recommender in the experience goods condition than in the search goods condition.

In addition, Huang et al. (2009) observed that the presence of consumer feedback increased purchase intention for the product, but the effect was greater for experience goods (Car components, health/beauty products, cameras), than search goods (shoes, home furniture, garden products). This result was based on a representative sample of actual transactions of more than 50,000 household in the U.S. Park and Lee (2009) showed that the effect of the negative electronic Word Of Mouth (eWOM) was greater for experience goods (language school program) than search goods (TOEIC book). That is, when people read negative eWOMs for experience goods, they were more willing to adopt the information to make their purchase decisions than when reading negative eWOMs for search goods.

Taken together, these results suggest that people depend more on others' opinions to assess the value of experience goods, whereas they tend to evaluate the search goods mostly based on one's own opinions (King & Balasubramanian, 1994). It may be because it is easier to determine the quality of search goods, once a sufficient amount of product information is gathered. Hoch and Ha's (1986) finding that once consumers obtain objective and physical evidence of certain product, they mainly refer to the evidence for their product evaluations and are less influenced by advertising, also supports this prediction.

With respect to the review quality, on one hand, if consumers rely more on

others' product reviews for experience goods than for search goods, they might as well elaborate more on the review messages when evaluating experience goods. According to the Elaboration Likelihood Model (Petty, Cacioppo & Schumann, 1983; Petty & Cacioppo, 1984), the route through which people process information to make a judgment can vary depending on the degree of motivation and ability to process the information. There exist two routes according to the model: the central route for individuals with high motivation and ability, and the peripheral route for the ones with low motivation or ability. While a person on the central route scrutinizes the message, analyzing its soundness, coherence, and validness to make a thoughtful judgment, the one on the peripheral route relies more on a peripheral cue or heuristics such as source attractiveness (Petty, Cacioppo, Strathman, & Priester, 2005) or consensus of people (Axson, Yates, & Chaiken, 1987) to make a rather quick judgment. Consequently, people on the central route are more likely to be able to differentiate high quality arguments from low quality arguments than the ones on the peripheral route, ultimately being influenced more by the high quality arguments on their decisions. Building on this logic, since consumer reviews for experience goods are likely to contain experiential attributes which is hardly described in the product description given by the seller, consumers reviewing experience goods may be more motivated to scrutinize others' reviews to gather useful information than those evaluating search goods.

However, consumers of experience goods might not necessarily focus more on the quality of the reviews. Instead, as hard as it is to obtain objective and unambiguous information about the experience goods, consumers seeking experience goods might be less motivated to engage in the central processing of the review content from the beginning. Rather, they might be more predisposed to focus on the vividness of experience described in the reviews, or mere valence of reviews in general. That is, they may expect to get a glimpse of personal episodes relevant to the product, rather than getting some concrete and objective evidence

from the beginning. In addition, the overall valence of total reviews might be sufficient for them to know the product's quality.

On the contrary, product reviews for search goods are more likely to contain unambiguous factual product information. For example, reviewers can specify the functions of the product in a factual manner. Thus, the readers of the reviews for search goods might have more objective standards to evaluate the quality of reviews than those reading reviews for experience goods. As a result, consumers for search goods may exert more cognitive effort to figure out whether each review has additional information to help with their decisions. If so, those reading reviews for search goods will be more likely to form their attitudes toward the product based on high quality reviews than low quality reviews, whereas the effects of review quality might be less pronounced for experience goods. After analyzing the actual reviews of Amazon.com, Ghose and Ipeiritis (2011) identified the pattern that when the reviews for experience goods (DVD) contain subjective sentences expressing reviewer's emotions, they were evaluated as more helpful than when the reviews for search goods (electronics) contain such sentences. This finding also accords well with the prediction that review quality, varied by the amount of product-related information and cogent arguments, will matter more for search than experience goods.

Given these two opposite possibilities, this study proposed research questions concerning the interaction effects between review quality and product type on product evaluation and purchase intention.

RQ3-1. How will the effects of review quality on product evaluation vary depending on the product type?

RQ3-2. How will the effects of review quality on purchase intention vary depending on the product type?

Second, reviewers' photos might have different effects for each product

type. In the case of experience goods, since experience attributes are more subjective and ambiguous than search attributes (Huang et al., 2009), it becomes a crucial issue to find a way to deliver this information as fully as possible. In this respect, provision of visual information of the person who shares his or her personal experience may contribute to decrease the ambiguity of the experience being spoken. To be specific, by adding a photo of the reviewer who is the agent of the experience, “nobody’s experience” may turn into “the person’s experience,” as if the protagonist finally emerged on the stage. The more real and accessible the experience in reviews become, the more likely the readers will be to rely on the reviews to form their attitudes. Babin and Burns (1997) showed that a print advertising including a concrete picture of a product (the complete form of a car racing in the road) evoked more vivid imagery processing than an ad with an abstract picture (the partial picture of the car merely showing close-up of some parts) or without a picture. Vividness of imagery referred to the extent to which the imagery which occurred was clear, detailed, sharp, and well-defined. Additionally, the vivid imagery in turn generated more positive attitude toward the advertising, as well as toward the brand. This result implies the importance of vividness of product information, and how concrete visual cues may influence consumers’ attitudes. In this regard, reviewers’ photos are might function as a concrete visual cue to facilitate the vivid imagery of the virtual experience with the experience goods.

Furthermore, avatars were found to promote the empathy with the communicator’s experience (Taylor, 2011). He conducted a content analysis of an online question-and-answer service to examine if there exists difference in terms of answers between questions with an avatar and without an avatar. The questions analyzed in the study were mainly concerned with personal experiences such as conflicts with family members, and problems at work. Data showed that the avatar-accompanied questions received more answers and the proportion of empathetic answers (showing more concern for the asker, sharing feelings or

similar experiences) was larger than questions without an avatar. Although the study did not separately analyze the effects of avatar types (human picture, animal, cartoon), this result still points to the possibility that a visual cue of communicator will induce higher empathy with experience compared to when there is no such cue. Considering the reviews for experience good are more likely to portray subjective experiences with the product rather than to merely listing objective features of the product, there seems to be more room for emotional connection in reviews for experience goods than for search goods.

In contrast, consumers of search goods may not benefit from the reviewers' photos as much, since the photos are not objective search attributes which can help them to determine the value of the goods. Unlike experiential attributes, search attributes are much less ambiguous, thus verbal encoding as well as decoding can be easier, making sensory richness less of an issue compared to delivering experiential attributes. Mudambi and Schuff (2010) observed that the number of words in the review had a greater positive effect on the perceived helpfulness of the review for search goods than for experience goods in Amazon.com. This result may imply that what matters for search goods is the amount of detailed information about the product, not the sensorial cues. Because the researchers did not analyze the content of reviews such as the amount of product information included, however, it is hard to exclude the possibility that the length of review might have served as a peripheral cue. Still, given the study of Ghose and Ipeirotis (2011) that reviews for search goods were evaluated more helpful when they mainly contained factual descriptions than when portraying subjective feelings, consumers of search goods seem to value objective product information that can verify the product's quality rather than other peripheral cues or subjective information.

In short, profile photos of reviewers might be a mere distraction for the consumers looking for search goods, since it provides no more information about the product per se. Accordingly, it was predicted that the effects of reviewer's

photos on attitudes toward the product would be greater for experience goods than search goods.

H3-1. The effects of the reviewers' photos on product evaluation will be greater for experience goods than for search goods.

H3-2. The effects of the reviewers' photos on purchase intention will be greater for experience goods than for search goods.

Research Questions and Hypotheses

The current study explored the effects of product reviews on e-commerce sites pertaining to review quality and reviewer representation across two different product types. The dependent variables consisted of affective reactions (i.e., social presence, reviewer evaluation, mall evaluation, product evaluation), cognitive reactions (i.e., recall of review content, recognition of product descriptions), and behavioral intentions (i.e., purchase intention).

First, review quality was expected to influence the affective reactions and behavioral intentions, with high quality reviews leading to more favorable attitudes. H1-1 and H1-2 concerned the effects on source evaluations including the reviewers as the direct source, and the mall websites as the indirect source in a broader sense. H1-3 and H1-4 pertained to the effects on product evaluations and purchase intention.

RQ1a-b. What difference will review quality incur in (a) affective reactions (reviewer evaluation, mall evaluation, product evaluation), and (b) behavioral intention (purchase intention)?

- H1-1.* People who read high quality reviews will evaluate the reviewers more positively than those who read low quality reviews.
- H1-2.* People who read high quality reviews will evaluate the mall more positively than those who read low quality reviews.
- H1-3.* High quality reviews will have a greater impact on participants' product evaluation than low quality reviews.
- H1-4.* High quality reviews will have a greater impact on participants' purchase intention than low quality reviews.

Next, regarding the effects of reviewer representation, the current study specifically focused on the comparison between profile photos of reviewer and

abstract figures (exclamation mark). RQ2-1 aimed to investigate whether the photos make consumers perceive more or less social presence. H2-1 and H2-2 concerned the effects on source evaluations, expecting photos to elicit greater intimacy and credibility. H2-3 and H2-4 suggested that the photos would make consumers depend more on the reviews on their product evaluations, and purchase intention, by reminding of a real person behind the pictures. Finally, RQ2-2 and RQ2-3 explored how the photos affect the cognitive reactions, either by drawing attentions or distracting from the text messages.

RQ2a-c. What difference will reviewer representation incur in (a) affective reactions (social presence, reviewer evaluation, mall evaluation, product evaluation), (b) behavioral intention (purchase intention), and (c) cognitive reactions (recall of reviews, recognition of product descriptions)?

RQ2-1. How does the addition of profile photos affect the level of social presence?

H2-1. People who read reviews with profile photos will evaluate the reviewers more positively than those who read reviews without profile photos.

H2-2. People who read reviews with profile photos will evaluate the mall more positively than those who read reviews without profile photos.

H2-3. People who read reviews with profile photos will evaluate the product more in line with the reviews than those who read reviews without the photos.

H2-4. People who read reviews with profile photos will be more likely to have purchase intention in line with the reviews than those who read reviews without the photos.

RQ2-2. How will profile photos of reviewers affect the recall of the reviews?

RQ2-3. How will profile photos of reviewers affect the recognition of product

descriptions?

Lastly, product type (experience goods vs. search goods) was expected to alter the effects of review quality and profile photos of reviewers. RQ3-1 and RQ3-2 addressed its interaction with review quality, and H3-1 and H3-2 predicted that the photos of reviewers would exert greater influence on experience goods than search goods, as photos would contribute to more vivid product trial in consumers' mind.

RQ3a-b. How will the product type interact with (a) review quality, and (b) reviewer representation to influence attitudes?

RQ3-1. How will the effects of review quality on product evaluation vary depending on the product type?

RQ3-2. How will the effects of review quality on purchase intention vary depending on the product type?

H3-1. The effects of the reviewers' photos on product evaluation will be greater for experience goods than for search goods.

H3-2. The effects of the reviewers' photos on purchase intention will be greater for experience goods than for search goods.

Method

Pilot test 1

Prior to the main experiment, two pilot tests were conducted to determine (1) the products for each category (experience goods vs. search goods), (2) the photos to be featured, and (3) the reviews of varying quality (high quality vs. low quality).

In Pilot Test 1, four products were chosen for each product category based on previous research. For experience goods, bicycle (Nelson, 1974), computer game (Mudambi & Schuff, 2010), wine (Senecal & Nantel, 2004), and cosmetics were used. For search goods, printer (Weathers et al., 2007), vitamin pills (Suwelack et al., 2011), digital camera (Mudambi & Schuff, 2010), and USB memory were presented. 34 undergraduate students (17 men, 17 women; Age $M = 24.35$, $SD = 1.35$) were first asked to indicate how much they agreed with the following statements: "It is important for me to use this product to evaluate how well it will perform," "I can evaluate the quality of this product simply by reading information about the product" (1 = *not at all*; 7 = *very much*) (Huang et al., 2009). The first item concerned the experiential attribute, and the second item the search attribute, thus the difference between the two items represented the extent to which each product is considered as experience goods. The greater the mean difference was, the more likely the product was to be experience goods, and the opposite was true for search goods. In addition, respondents were asked to indicate how well each adjective described their perception of the product (1 = *very poorly described*, 7 = *very well described*): important, means a lot to me, relevant, and valuable (Mano & Oliver, 1993). The four items were then averaged to create the involvement index ($\alpha > .80$ for all products).

Results showed cosmetics had the largest mean difference (2.94) and USB memory showed the smallest difference (-1.39), but their involvement scores were significantly different from each other, $t(33) = -2.88$, $p = .007$. Therefore,

computer game was chosen as experience goods, and vitamin as search goods (mean difference = 2.62 for computer game, .24 for vitamin; $t(33) = -4.13, p < .001$) and their involvement scores were not significantly different, $t(33) = 1.01, p = .32$. As the actual products to be presented in the main experiment, “Sims 3” which was used in previous research (Mudambi & Schuff, 2010) was selected for experience goods, and “Alive multi-vitamin” was selected for search goods.

Additionally, to control the effects of difference in physical attractiveness when using photos of people, respondents were presented with eighteen profile photos (9 men, 9 women) and indicated how well each adjective described each photo: attractive, friendly, and likable (1 = *very poorly described*, 7 = *very well described*). The responses were averaged to create the attractiveness index ($\alpha = .86$). Among the photos which were not significantly different from the scale midpoint (4.00), six photos showing the person’s full front face (3 men, 3 women) were chosen for the main experiment ($M = 3.98, SD = .22$, one-sample t-test, $t_s \leq 1.40, p_s > .10$).

Pilot test 2

To determine the high quality reviews and low quality reviews for both experience goods and search goods, online consumer reviews for Sims 3 and Alive multi-vitamin were sampled and modified for use in the pilot test. High quality reviews and low quality reviews were different in (1) the amount of detailed product information, (2) the relevance of information, and (3) coherence between the main argument and its evidence. High quality reviews included more detailed and relevant product information, conveying coherent and convincing argument. Low quality reviews instead contained unconvincing argument, merely repeating one’s impression of the product without offering relevant evidence or tapping irrelevant and trivial properties of the product. Given that the sheer length of a message can influence the quality perception of the message (Wood, Kallgren, & Preisler, 1985), the length of reviews between the high quality review and the low

quality review condition for each product was made identical before the pilot test ($M = 143.33$ characters for game, $M = 143.56$ characters for vitamin). Once selected, the reviews were slightly modified to be of the exactly same length across all conditions ($M = 145.17$ characters for each condition).

20 undergraduate students (13 men, 7 women, Age $M = 25$, $SD = 1.08$) answered to an online questionnaire containing product descriptions for Sims 3 and Alive multi-vitamin, and 18 reviews for each product (9 high quality reviews, 9 low quality reviews). Four different versions of the questionnaire were used varying the order of products and review quality to control for the possible order effects, and 5 respondents were assigned to each version. For each review, respondents evaluated its quality on three items (Munch & Swasy, 1988; $\alpha = .88$): very weak (1) – very strong (7), not convincing – very convincing, not relevant – very relevant. They also answered to the question asking the perceived valence of each review: very negative (1) – very positive (7). Consequently, five positive reviews and one negative reviews which were rated highest in quality were chosen as high quality reviews ($M = 5.32$, $SD = .77$ for Sims3; $M = 5.18$, $SD = .65$ for Alive vitamin), and the ones rated lowest as low quality reviews ($M = 3.62$, $SD = 1.14$ for Sims 3; $M = 2.78$, $SD = 1.09$ for Alive vitamin). High quality reviews were perceived to be significantly more persuasive than low quality reviews, $t(19) = 6.72$, $p < .001$ for Sims 3, $t(19) = 10.15$, $p < .001$ for Alive vitamin. And the valence of selected reviews in all conditions was positive compared to the scale midpoint (4.00), one-sample t-test, $t_s \leq 7.59$, $ps < .001$. However, there appeared a marginally significant difference in valence between high quality reviews and low quality reviews for Alive vitamin, $t(19) = 2.00$, $p = .06$. Thus, in the main experiment, star ratings were added to ensure that high quality and low quality reviews convey the same valence. The selected reviews are presented in from Table 1 to Table 4.

Table 1. High quality reviews for Sims 3

1	<p>심즈에서는 내가 원하는 캐릭터를 만들어서 내가 원하는 가상의 삶을 살 수 있는 게 매력임. 누구든 심즈에서는 성공한 백만장자가 될 수도 있는 거고, 범죄의 달인이나 로맨틱한 바람둥이가 될 수도 있고... 가능성이 무궁무진한데 이게 다 현실 같다는 게 대박!</p>
2	<p>캐릭터들을 다양하게 만들 수 있어서 좋네요. 근육질, 뚱뚱한 심, 마른 심 모두 만들 수 있고, 피부 색깔이나 눈 색깔도 맘대로 바꿀 수 있구요. 그리고 이 심들이 결혼해서 아기를 낳으면 이런 것들이 다 유전으로 아기한테도 이어지는 걸 보면 신기해요. 추천!</p>
3	<p>전 심즈에서 주로 농사를 많이 지어요. 초기엔 토마토, 사과 같은 걸 마당에 심구요. 잡초도 뽑고 물도 주고 하면 곧 익는데, 익은 과일이랑 채소 따서 음식 해 먹어도 되고 팔아서 돈도 벌 수 있고 원예 스킬도 올릴 수 있고요. 심즈는 정말 많은 걸 할 수 있는 게임이어서 좋아요.</p>
4	<p>가구나 물건들이 종류가 적어서 집 꾸밀 맛이 안 나요. 심즈 사이트에서 추가로 살 수 있는데 가격이 좀 어이없이 비싸네요. 그리고 괜히 심즈3 오리지날에 넣을 수 있는 기능을 확장팩으로 따로 출시해서 돈 많이 쓰게 하는 느낌이에요. 부자만 심즈 하라는 건지... 짜증나요.</p>
5	<p>캐릭터 성격을 지정하는 게 정말 재밌네요 ㅋㅋ 결벽증 있는 심은 자꾸 싱크대 청소하구요, 외톨이 성격의 심은 다른 심들과 함께 있으면 엄청 불편해 하고요. 미친 심은 자꾸 혼잣말 해요 ㅋ 성격이 80가지나 되다 보니 하나씩 심 만들어서 지켜보는 것도 재미가 쏠쏠하네요.</p>
6	<p>만약 저처럼 건축물 만드는 거 좋아하시는 분이라면 진짜 최고의 게임입니다. 중세 성부터 모던한 회사 건물까지 다 지을 수 있어요! 외양도 내부도 실제 건물 같아서 더 좋고요. 굳이 심 플레이 안 해도 추가적으로 즐길 게 정말 많아요.</p>

Table 2. Low quality reviews for Sims 3

1	전 심즈 3 완전 좋아해요! 쉬는 시간 날 때마다 플레이하구요. 학교 가기 전도 심즈하고, 학교 갔다 온 후에도 심즈하고, 주말은 거의 하루 종일 심즈밖에 안 하는 것 같네요. 제대로 중독성 짝니다. 돈 모이는데로 나와있는 확장팩도 다 살려고 생각 중이에요.
2	전 이런 게임이 있다는 걸 이제야 알았네요. 플레이하면서 계속 든 생각은, 제작자들이 천재인 거 같아요. 안 해 본 사람은 잘 모를 텐데, 아무튼 일단 해보면 재미는 제가 보장해요. 좀 많이 신기하기도 하구요. 적어도 돈 낭비했다는 생각은 안 드실 꺼예요.
3	심즈 진짜 재밌네요 ㅋㅋ 진심 이거 하나 때문에 컴퓨터 새로 바꿨어요. HP 파빌리온 G7-1237dx로 바꾸고 나니 심즈 설정에서 그래픽 최고로 올려도 심즈 엄청 잘 돌아가서 이제 겜 할 맛 좀 제대로 나네요. 마을도 심들 표정도 제대로 보여서 행복해요 ㅋㅋ
4	암거나 다 만들 수 있다고 해서 해리포터 같은 거 심즈에서 만들어 보려고 했더니 심즈3에선 아직 안 된대요! 짜증나요. 그거 때문에 샀는데 왜 마법 같은 게 없나요? 그 정도는 되야 기본 아닌가? 심즈 3 실망이네요. 진짜 해리포터 겜이나 사러 가야겠어요.
5	아직 플레이는 안 해 봤는데 짬있을 거 같아요! 제가 원래 시뮬레이션 가상 현실 이런 거 좋아하거든요. 온라인 게임 아닌 pc게임은 오랫동안이네요. 설명서 보니까 겜화면 스냅샷이랑 영상찍어서 공유해도 된다고 하네요 찍어서 페이스북에 함 올려볼까 생각 중이네요. 짬있을 거 같아요.
6	심즈에는 치트키가 엄청 많습시다 효과도 빵빵하구요. 전 순전히 대리 만족 때문에 심즈3하는 거라서 그냥 치트키로 바로 돈이랑 욕구 채우거든요. 그래서 옷도 사주고 집도 업그레이드하고... 그냥 내 심들은 좋은 것만 누리고 잘 살았으면 좋겠네요. 치트키 꼭 써보시길!

Table 3. High quality reviews for Alive Multi-Vitamin

1	<p>제가 어릴 때부터 조금만 피곤하면 바로 다크서클 장난 아니거든요. 요즘 이 비타민 먹고 있는데, 며칠 전에 부모님 뵈러 12시간 넘게 비행기를 탔어요. 근데 내렸는데 다크서클이 안 보이는 거예요! 저도 놀라고 부모님도 놀라고... 감동해서 부모님도 한 통 선물로 드리고 왔어요. 효과짱!</p>
2	<p>다른 멀티 비타민 먹다가 이 비타민 먹으면 그 차이가 확실히 느껴져요. 진짜 최고예요! 아침, 점심, 오후 늦게 세 번 잘 챙겨먹으면, 퇴근할 때도 전신에 힘이 넘치는 느낌이랄까 진짜 놀라울 정도ㅎㅎ 전에는 퇴근할 때쯤이면 피곤해서 죽을 거 같았거든요. 직장인의 필수품입니다.</p>
3	<p>눈에 좋은 거, 뼈에 좋은 거... 따로 일일이 챙겨드리지 마시고 그냥 이거 하나 사서 삼시세끼 꼬박 챙겨드세요. 이 건 비타민이면 비타민, 효소면 효소, 오메가 3까지 다 들어 있는 거의 완전 식품이에요. 저처럼 간편한 거 좋아하시는 분이면 강추드려요!</p>
4	<p>알약이 진짜 너무 커요! 물만으로도 삼키기 힘들어서 별로예요. 밥 먹을 때 같이 먹으면 된다는데, 어떻게 사람이 식사 때마다 매번 챙겨먹나요? 귀찮고 번거롭잖아요... 생각날 때마다 쉽게 먹을 수 있게 좀 더 작게 만들어 줬으면 좋았을 거 같아요.</p>
5	<p>건강 문제 때문에 채식한지 2년 됐는데요. 한국에서 채식하기 참 힘들어요. 고기 먹다 안 먹으니 괜히 힘도 없는 느낌이고... 근데 이 비타민으로 해결했어요. 채소랑 과일, 버섯 등 채식 원료들이 들어 있어서 간편하게 영양 챙기기는 정말 최곤거 같아요.</p>
6	<p>이 제품 괜찮습니다. 뭐든 과유불급인 거 아시죠. 온갖 거 다 넣으면 좋은 줄 아는 회사들 있는데 이건 비타민이랑 미네랄 함유량이 딱 적정 수준이에요. 과한 강장제가 추가로 들어 있지도 않고요. 과다 섭취할 걱정 없이 균형 있게 먹기 딱 좋은 멀티비타민입니다.</p>

Table 4. Low quality reviews for Alive Multi-Vitamin

1	<p>이거 먹으면 올해는 감기 한 번도 안 걸릴 거 같음! 감기 독감 그런 거는 약할 때 걸리지 않음? 근데 이 비타민 먹으면 엄청 파워업될 거 같은 느낌ㅋㅋ 딱 봐도 효과 끝내 주게 생겼음 ㅋㅋ 지금 먹은지 하루 되서 바로 효과는 몰겠지만 장기적으로 좋을듯 해서 꾸준히 먹어 보려고 함</p>
2	<p>이거 효과 짱이네요 내가 먹어본 것 중에 제일 좋아요! 못 믿는 사람도 일단 하나 사서 드셔 보세요. 돈 좀 투자해서 몸에 좋은 일 좀 하세요! 맨날 피자나 치킨 같은 것만 먹지 말고요.. 내 몸은 내가 지켜야지 아님 누가 지키나요?</p>
3	<p>제가 요즘 상태가 영 안 좋거든요. 특히 요즘 학교에서 빠지는 일이 많아서 정신적으로 좀 힘들어요... 근데 이상하게 이거 먹고 나면 왠지 좀 안정되는 느낌이에요. 진짜 괜찮은 비타민이니까 여러분도 많이 사드세요. 특히 열받는 일 많은 사람들에게 강추합니다!</p>
4	<p>배송 기사가 많이 불친절하네요. 기사 아저씨가 몇 번 전화를 하긴 했는데 제가 회의 중이었거든요? 그러니 못 받았죠 그랬더니 그냥 집 문앞에 놓고 간거예요! 정말 어이가 없어서... 그래서 잃어버리면 그건 누가 책임지죠?? 이제 이 비타민 안 살려구요.</p>
5	<p>비타민 통 색깔이 노란색으로 산뜻해서 좋네요. 저는 사무실에 놓고 생각날 때마다 하나씩 집어 먹거든요. 전에 먹던 거는 너무 크구 색깔도 칙칙해서 뭔가 비타민 먹는 느낌이 안 들었어요. 비타민 보다는 약 먹는 느낌이랄까?? 이건 통부터 맘에 들어요.</p>
6	<p>사회인에게 가장 중요한 거는요 이거 먹으면 트림 안 나와요. 옛날에 탄 비타민 먹다가 갑자기 회의하는 데 트림 나와서 헉한 기억... 지금 생각해도 짜증나네요. 중요한 회의였는데... 암튼 이거 먹으면 효과는 몰겠지만 적어도 트림은 안 나온다는 거 보장합니다. 그런 면에서 전 이 비타민 강력히 뵙니다.</p>

Main experiment

Participants

A total of 252 undergraduate students (86 men, 166 women; Age $M = 22.32$, $SD = 2.26$) participated in the online experiment. They were recruited from eight large universities in South Korea. They participated in the online survey through the link posted on their university portal websites, in return for a three-dollar gifticon. Participants were randomly assigned to one of the conditions in a 2 (reviewer representation: photo vs. figure) x 2 (review quality: high quality vs. low quality) x 2 (product type: experience vs. search) between-subjects design experiment.

Procedure

Upon accessing the experiment website, participants were told that they would participate in an experiment regarding e-commerce website. Before viewing a mock-up online shopping mall webpage, they indicated how frequently they use online shopping malls, and if they had used the product featured (Sims 3 or Alive multi-vitamin). After viewing the mock-up shopping mall webpage, they answered questions concerning social presence, reviewer evaluation, mall evaluation, product evaluation, purchase intention, recall of reviews, and recognition of product description. In addition, they responded to the manipulation check items for review quality and demographical items including sex and age.

Experiment stimuli

The shopping mall webpage consisted of a photo of the product, product descriptions and six reviews of the product (see Figures 1 & 2). Its interface was made to be similar to typical shopping mall websites by including a search bar, navigation bar, purchase-related buttons, login button, and delivery information.

Product descriptions for each product were same in the number of items and the whole length (5 items, 264 characters for both products). Price of the product was blurred to ask participants later how much they were willing to pay. Each review had star ratings to show its positivity toward the product, and the order was same in all conditions (5 stars – 5 stars – 5 stars – 2 stars - 4 stars – 5 stars). Although the dominant valence of reviews was positive, one negative review with 2 stars was included to heighten perceived genuineness.

To investigate the effects of profile photos in consumer reviews, either six photos selected in the pilot test 1 or six abstract figures were put beside each review. The abstract figures were an exclamation mark in a colored box which was used as a default profile figure in Yahoo! (<http://www.yahoo.com/>) boards. To make the amount of demographical information between two conditions as similar as possible, reviews with figures had extra information of each reviewer that can be easily identified from profile pictures, such as sex and age, and each figure was colored differently to highlight its individuality. The order of photos and figures was same in all conditions.


Figure 1. Shopping mall webpage (game, photo, high quality review)

Shopping Space
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Shopping Space

상품 검색

게임 > PC 게임 > 시뮬레이션



심즈 3 (DVD/Rom)

판매가 원

배송료: 무료
수령예상일: 24시간 이내 배송 가능


주문수량: 개

장바구니 담기
wishlist에 담기
바로구매하기

상품 정보

- 생활 시뮬레이션 게임 '심즈'라는 가상의 캐릭터를 통해, 운생, 학업 및 직장 생활, 사고 및 연애, 결혼 및 가족 꾸리기 등의 모든 삶의 과정을 게임 속에서 만들어갈 수 있음
- 심의 의무: 의상을 비롯하여 집, 가구, 아이돌을 모두 유적이 조정 및 제작 또는 추가 구매 가능
- 심의 성격은 총 8가지 종류가 있으며, 오리, 장차, 언론, 시인, 군대, 범죄학, 범죄, 음악 등 다양한 직업군 선택 가능
- 각 심에게는 한기, 사고, 용변, 워싱턴, 메나지, 재미의 총 6가지 기운 욕구가 존재하여 이를 특정 행동이나 아이돌을 통해 채워야 함
- 현재 총 6개의 확장팩을 통해 심이 할 수 있는 행동, 생활 환경, 아이돌을 추가 가능


이 상품에 대한 상품평



최인*

심즈에서는 내가 원하는 캐릭터를 만들어서 내가 원하는 가상의 삶을 살 수 있는 게 매력임. 누구든 심즈에서는 성공할 법안장치가 될 수도 있는 거고, 법칙이 없거나 룰엔틱한 버림종이가 될 수도 있고... 가동성이 무궁무진한데 이게 다 현실 같다는 게 대박!


Like



김선*

캐릭터들 다양하게 만들 수 있어서 좋네요. 근육질, 울퉁한 심, 마른 심 모두 만들 수 있고, 피부 색깔이나 눈 색깔도 맘대로 바꿀 수 있구요. 그리고 이 심들이 결혼해서 아이를 낳으면 이런 것들이 다 유전으로 이어진다고 이야기는 걸 보면 신기해요. 추천!


Like



진재*

진 심즈에서 주로 농사를 많이 지어요. 초기엔 토마토, 사과 같은 걸 마당에 심구요. 집초도 좋고 물도 주고 하면 꿀 먹는데, 익은 과일만큼 캐서 음식 해 먹어도 되고 팔아서 돈도 벌 수 있고 판매 스킬도 활용할 수 있고요. 심즈는 정말 장문 할 수 있는 걸이어서 좋아요.


Like



김규*

가구나 물건들이 종류가 적어서 집 꾸밀 맛이 안 나요. 심즈 사이트에서 추가로 살 수 있는데 가격이 좀 어이없이 비싸네요. 그리고 편히 심즈3 오리지날에 넣을 수 있는 기능을 확장팩으로 따로 출시해서 쓴 맛이 쓰게 하는 느낌이에요. 무자만 심즈 하라는 건지... 짜증나요.


Like



이혜*

캐릭터 성격을 지정하는 게 정말 재밌네요 ㅋㅋ 결박중 있는 심은 자주 실패 침소하구요. 외동이 성격의 심은 다른 심들과 함께 있으면 엄청 불편해 하구요. 미친 심은 자주 존질할 해오 ㅋㅋ 성격이 80가지나 되다 보니 하나씩 심 만들어서 지켜보는 것도 재미가 쏠쏠하네요.

Like



박창*

만약 지체될 건축물 만드는 거 좋아하시는 분이시면 진짜 최고의 게임입니다. 경제 성부터 모던한 회사 건물까지 다 지을 수 있어서 외왕도 내부도 실제 건물 같아서 더 좋아요. 굳이 심 플레이 안 해도 추가적으로 즐길 게 정말 많아요.

Like

상품평을 써주세요.

★★★★★

등록하기

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Figure 2. Shopping mall webpage (vitamin, figure, low quality review)

Shopping Space
로그인 | 김바구니

Shopping Space

상품 검색

식품 > 건강 보조제 > 비타민



알라이브 멀티비타민

판매가: ████████ 원

배송료: 무료

수령예상일: 24시간 이내 배송 가능


주문수량: 개

김바구니 담기
위시리스트 담기
바로구매하기

상품 정보

- 총 25종 비타민 및 미네랄과 18종 아미노산, 오메가 3가 포함된 식품 보조제. 특히 비타민 B와 비타민 D의 함량이 높으며, 질분이 첨가되지 않음.
- 크랜베리, 블루베리, 자두, 딸기 등을 포함하여 총 26종 과일 함유. 파슬리, 케일, 시금치 등의 14종 유기농 채소 함유. 이외 12종 유기농 버섯이 포함됨.
- 석유와 적포도주 알코올, 아사이 베리를 비롯한 총 40종 이상의 향신료 원료 함유.
- 필수영양에 필요한 에너지 보충 및 면역 체계 활성화 기능이 있음. 심장 질환 치료에 도움. 그 외 하루에 필요한 필수 영양소 섭취량정량을 채울 수 있음.
- 총 180알로 구성되어 있으며, 하루에 3알씩 음식과 함께 섭취를 권장.


이 상품에 대한 상품평




친인*
(남, 21)

이거 먹으면 물에는 감기 한 번도 안 걸릴 거 같음! 걸기 속감 그런 거는 약할 때 걸리지 않음? 근데 이 비타민 먹으면 엄청 파워업될 거 같은 느낌 ㅋㅋ 약 봐도 효과 끝나 주게 생겼음 ㅋㅋ 지금 먹은 지 하루 되서 바로 효과는 몰겠지만 장기적으로 좋을것 해서 꾸준히 먹어보려고 함

★★★★★


 Like




김신*
(여, 28)

이거 효과 좋아네오 내가 먹어본 것 중에 제일 좋아오! 못 믿는 사람도 일단 하나 사서 드셔 보세요. 온 몸 두지해서 몸에 좋은 일 좀 하세요! 매일 피지나 치린 같은 것만 먹지 말고요. 내 몸은 내가 지켜야지! 아님 누가 지켜나오?

★★★★★


 Like




신재*
(여, 25)

제가 요즘 상쾌가 영 안 통거든요. 특히 요즘 학교에서 딱치는 일이 많아서 정신적으로 좀 힘들어 오... 근데 이상하게 이거 먹고 나면 편지 좀 안정되는 느낌이예요. 진짜 편한데 비타민이니까 여러 분도 많이 사주세요. 특히 열받은 일 많은 사람한테 강추합니다!

★★★★★


 Like




김규*
(남, 23)

배송 기사가 많이 불친절하네요. 기사 아저씨가 몇 번 견장을 하긴 했는데 제가 회의 중이었거든요? 그러니 못 받았고 그랬던! 그냥 집 문앞에 놓고 간거예요! 정말 어이가 없어서... 그래서 물어바리던 거! 누가 책임지죠?? 이제 이 비타민 안 살려구요.

★★★★☆


 Like




이혜*
(여, 24)

비타민 통 색깔이 노란색으로 신뜻해서 좋네요. 저는 사무실에 놓고 생각날 때마다 하나씩 집어 먹거든요. 전에 먹던 거는 너무 크구 색깔도 칙칙해서 뭔가 비타민 먹는 느낌이 안 들었어요. 비타민 보다는 약 먹는 느낌이랄까?? 이거 통부터 구매하세요.

★★★★★


 Like



박창*
(남, 27)

사회인에게 가장 중요한 거는 이거 먹으면 트림 안 나오요. 옛날에 딱 비타민 먹다가 갑자기 회의하는 데 트림 나와서 학한 기역... 지금 생각해도 짜증내요. 중요한 회의였는데... 알른 이거 먹으면 효과는 몰겠지만 적어도 트림은 안 나온다는 거 보장합니다. 그런 면에서 전 이 비타민 강력히 믿습니다.

★★★★★

 Like

상품평을 써주세요.

★★★★★

등록하기

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Measures

Control Variables

Prior experience with the product. Participants checked “yes” if they used the product (Sims 3 or Alive vitamin) before the experiment, or “no” if they did not. (1 = yes, 0 = no; $M = .35$, $SD = .48$ for Sims 3, $M = .05$, $SD = .22$ for Alive vitamin)

Frequency of using online shopping mall. Participants indicated how often they use online shopping malls on a 7-point scale (1 = never, 7 = always; $M = 4.88$, $SD = 1.49$).

Dependent Variables

Social presence. Social presence refers to the feeling of virtual face-to-face interaction. Participants indicated how much they agree with each following statement on a 7-point scale (Lee & Nass, 2004; Nowak & Biocca, 2003): “I felt as if I were engaging in an actual conversation with the reviewers,” “I felt like I was in the same room with the reviewers,” “I felt as if the reviewers were speaking directly to me,” “I could imagine the reviewers vividly” (1 = high strongly disagree, 7 = strongly agree; $\alpha = .88$, $M = 3.20$, $SD = 1.26$)

Reviewer evaluation. Participants were shown a list of eight adjectives and indicated how well each word described the reviewers on a 7-point bipolar scale, with higher scores representing more favorable evaluations across three dimensions: Competence (unintelligent - intelligent, inexpert - expert, uninformed - informed), character (dishonest - honest, untrustworthy - trustworthy), and social attractiveness (unlikable - likable, unattractive - attractive, unfriendly - friendly) (McCroskey & Young, 1981; Lee & Jang, 2011). Because a factor analysis yielded a single-factor solution (Eigenvalue = 4.66, variance accounted for = 58.19), scores were averaged ($\alpha = .90$, $M = 3.75$, $SD = 1.02$).

Mall evaluation. Participants indicated the extent to which the shopping mall website was perceived to be trustful (trustworthy, honest), expert (professional, useful), and likable (likable, interesting, likely to buy from this website) on a 7-point bipolar scale (Flanagin & Metzger, 2007; Gefen & Straub, 2003). Because a factor analysis yielded a single-factor solution (Eigenvalue = 4.62, variance accounted for = 65.99), scores were averaged, yielding the composite index whose higher scores indicated more favorable evaluations of the shopping mall website ($\alpha = .91$, $M = 3.85$, $SD = 1.09$).

Product evaluation. Participants were asked to evaluate the product in terms of five aspects: not needed (1) – needed (7), not beneficial-beneficial, not useful-useful, not valuable-valuable, not interesting - interesting (Mano & Oliver, 1993). The scores were then averaged ($\alpha = .91$, $M = 3.82$, $SD = 1.36$).

Purchase intention. To assess purchase intention, two complementary measurements (willingness to buy, suggested price) were used. First, participants rated how willing they were to buy the product described in the reviews if they considered buying the type of product (Zhang, 1996): unlikely (1) – likely (7), improbable – probable ($r = .90$, $M = 3.40$, $SD = 1.68$). Second, participants were asked to write the price they were willing to pay for the featured product ($M = 18,673.30$ won, $SD = 11,637.12$ won).

Recall of reviews. Participants were given three minutes to list any product information they remember from the reviews (Cacioppo & Petty, 1981). After the data collection, two independent coders counted the number of correct recalls. Because inter-coder reliability was high (Cohen's $\kappa > .70$), the results of two coders were averaged for further analyses ($M = 3.29$, $SD = 1.48$).

Recognition of product description. Participants were given four statements

concerning the target product and asked to indicate whether each statement was correct (1) or incorrect (0). Among four statements, only two correctly presented the information included in the product description, and the participant who correctly marked either “correct” or “incorrect” for each statement obtained 1 point for each answer ($M = 2.27$, $SD = .99$).

Results

Manipulation check

To examine if participants who read high quality reviews indeed perceived them to be higher in quality compared to those who read low quality reviews, participants were asked to indicate how well the following adjectives described the reviews they had read (Munch & Swasy, 1988; $\alpha = .82$, $M = 3.88$, $SD = 1.28$): very weak (1) – very strong (7), not convincing – very convincing, not relevant – very relevant. As intended, participants reading high quality reviews ($M = 4.34$, $SD = 1.15$) perceived the reviews as stronger arguments than the ones reading low quality reviews ($M = 1.22$, $SD = 1.22$), $t(250) = 6.42$, $p < .001$, Cohen's $d = .81$.

Hypothesis tests

Affective reactions

Before the main analyses, intercorrelations of key variables were examined (Table 5). First, a 2 (photo vs. figure) x 2 (experience goods vs. search goods) x 2 (high quality review vs. low quality review) MANCOVA was performed on affective reactions including social presence, reviewer evaluation, mall evaluation, and product evaluation. Covariates were prior experience with the product, and the frequency of using online shopping mall. Results showed significant multivariate effects for the review quality and product type. There also emerged a significant interaction between reviewer representation and review quality (see Table 6 for significant results).

Table 5. Intercorrelations of key variables

	1	2	3	4	5	6	7	8	9	10
1. Review quality										
2. Reviewer representation	.06									
3. Product type	-.02	-.01								
4. Social presence	.10	-.07	-.03							
5. Reviewer evaluation	.30**	-.08	.27**	.52**						
6. Mall evaluation	.27**	-.02	.24**	.37**	.63**					
7. Product evaluation	.27**	-.05	-.13*	.34**	.55**	.44**				
8. Willingness to buy	.11	-.01	.04	.21**	.49**	.42**	.74**			
9. Suggested price	.11	-.02	.07	.19**	.27**	.24**	.38**	.36**		
10. Recall of reviews	-.08	-.06	.04	.08	.04	-.07	.06	-.004	.01	
11. Recognition of description	.01	-.13*	-.16**	-.03	-.01	-.05	.14*	.06	.04	.04

Note. IVs were coded as follows:

1. review quality: 1 = low quality, 2 = high quality

2. reviewer representation: 1 = figure, 2 = photo

3. product type: 1 = vitamin, 2 = game

** p < .01 * p < .05

Table 6. MANCOVA on affective reactions

	Wilks' λ	F (4, 239)	p	η_p^2
Review quality	.86	8.31	.000	.14
Product type	.71	24.53	.000	.29
Reviewer representation x review quality	.94	3.53	.008	.06

A series of follow-up ANCOVAs (see Table 7 for significant results) revealed that review quality had main effects on reviewer evaluation, product evaluation, and mall evaluation. Those who read high quality reviews evaluated the reviewers, the product, and the shopping mall more positively than those who read low quality reviews, supporting H1-1 through H1-3. Specifically, those who read high quality reviews perceived the reviewers to be more competent, trustful, and socially attractive ($M = 4.05$, $SD = .95$) than did those who read low quality reviews ($M = 3.43$, $SD = 1.00$) (H1-1).¹ Likewise, those who read high quality reviews evaluated the shopping mall as more trustful, expert, and likable ($M = 4.13$, $SD = .98$) than did those who read low quality reviews ($M = 3.55$, $SD = 1.12$) (H1-2). Lastly, those who read high quality reviews evaluated the product as more needed, beneficial, useful, valuable, and interesting ($M = 4.10$, $SD = .97$) than did those who read low quality reviews ($M = 3.58$, $SD = 1.15$) (H1-3).

However, there was no significant main effect of profile photos on affective reactions, failing to support H2-1 (reviewer evaluation), H2-2 (mall evaluation), and H2-3 (product evaluation). Specifically, those who read reviews with reviewers' photos did not perceive the reviewers to be more competent, trustful, and socially attractive ($M = 3.66$, $SD = 1.01$) than did those who read

¹ Additional statistical analyses were performed for each subdimension of reviewer evaluation (competence, character, social attractiveness), respectively. There was no significant difference across subdimensions.

reviews with figures ($M = 3.83, SD = 1.03$) (H2-1). Likewise, those who read reviews with reviewers' photos did not evaluate the shopping mall as more trustful, expert, and likable ($M = 3.83, SD = 1.09$) than did those who read reviews with figures ($M = 3.87, SD = 1.09$) (H2-2). Lastly, those who read reviews with reviewers' photos did not evaluate the product as more needed, beneficial, useful, valuable, and interesting ($M = 3.76, SD = 1.33$) than did those who read reviews with figures ($M = 3.88, SD = 1.39$) (H2-3). RQ2-1 addressed if the photos could evoke different levels of social presence than abstract figures do, and there appeared no significant difference in social presence between those two conditions ($M = 3.10, SD = 1.28$ for photos, $M = 3.28, SD = 1.24$ for figures), $F(1, 242) = 1.41, p = .24, \eta_p^2 = .01$.

Likewise, there was no significant interaction between (a) product type and review quality on product evaluation, $F(1, 242) = 2.30, p = .13, \eta_p^2 = .01$, and (b) product type and reviewer representation on product evaluation, $F(1, 242) = .87, p = .35, \eta_p^2 = .004$. Thus, H3-1 which predicted that the effect of photos on product evaluation would be greater for experience goods was not supported. RQ3-1 examined if the effect of review quality on product evaluation varied depending on the product type, and results showed that there was no significant difference.

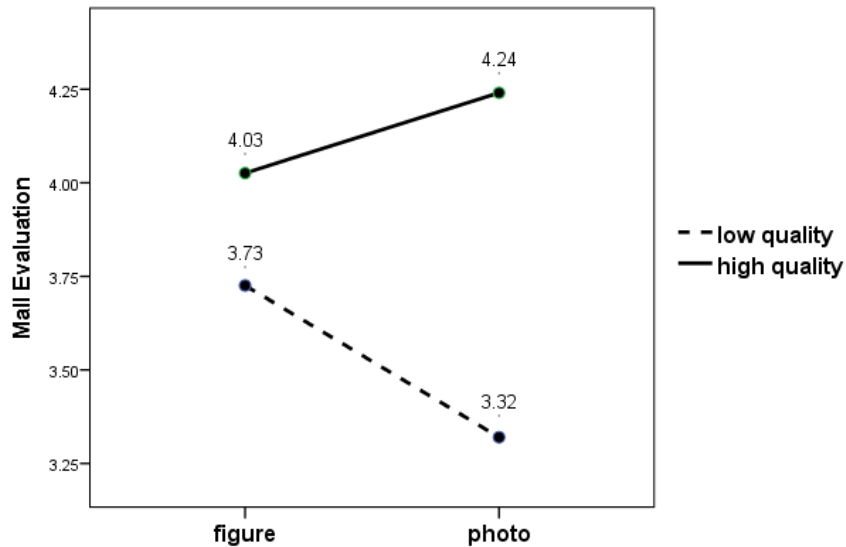
Unexpectedly, product type was observed to have main effects on reviewer evaluation, product evaluation, and mall evaluation (Table 5). Specifically, computer game yielded more positive reviewer evaluations ($M = 4.02, SD = .93$) than vitamin did ($M = 3.46, SD = 1.04$), and more positive mall evaluations ($M = 4.10, SD = .97$) than vitamin did ($M = 3.58, SD = 1.15$), $F(1, 242) = 10.02$. On the contrary, vitamin elicited more positive product evaluation ($M = 4.00, SD = 1.35$) than computer game ($M = 3.65, SD = 1.35$).

Table 7. Effects on affective reactions

IV	DV	F(1, 242)	p	η_p^2
Review quality	Reviewer evaluation	28.51	.001	.11
	Product evaluation	21.84	.001	.08
	Mall evaluation	23.28	.001	.09
Product type	Reviewer evaluation	16.62	.001	.06
	Product evaluation	14.35	.001	.06
	Mall evaluation	10.02	.002	.04
Reviewer representation x review quality	Mall evaluation	6.01	.02	.02

In addition, there emerged an unpredicted interaction between reviewer representation and review quality on mall evaluation (see Figure 3). Simple effects tests showed that in the photo condition, those who read high quality arguments rated the mall more favorably than those reading low quality argument, $F(1, 248) = 21.09, p < .001$. In the figure condition, on the contrary, there was no significant difference between high quality and low quality reviews, $F(1, 248) = 3.10, p = .08$. Additionally, simple effects tests for each review condition did not yield any significant result.

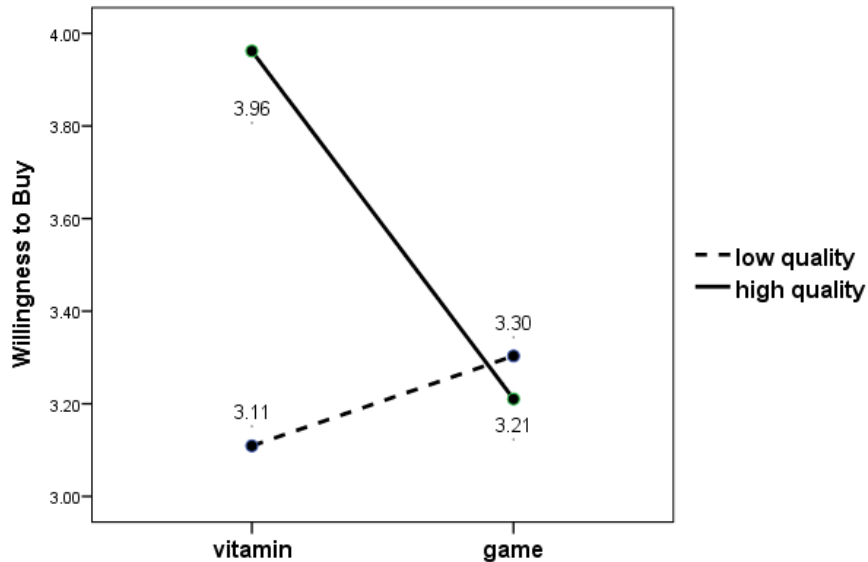
Figure 3. Effects of reviewer representation and review quality on mall evaluation



Behavioral intention

Second, the same 2 x 2 x 2 MANCOVA was conducted on purchase intention including willingness to buy and suggested price. No main effect was observed, but an interaction emerged between review quality and product type (RQ3-2), Wilks' $\lambda = .98$ $F(2, 241) = 3.07$, $p < .05$, $\eta_p^2 = .03$. Follow-up ANCOVAs confirmed the significant interaction between argument quality and product type on willingness to buy (see Figure 4), $F(1, 242) = 5.59$, $p = .02$, $\eta_p^2 = .02$. Simple effects tests showed that for vitamin, high quality reviews elicited higher willingness to buy than did low quality reviews, $F(1, 248) = 8.63$, $p < .01$. In contrast, for game, there was no significant difference in willingness to buy between high quality and low quality reviews, $F(1, 248) = .25$, $p = .62$.

Figure 4. Effects of product type and review quality on willingness to buy



However, follow-up ANCOVAs on (a) willingness to buy and (b) suggested price did not reveal any significant main effect of review quality and profile photos on purchase intention, failing to support H1-4 and H2-4. Specifically, those who read high quality reviews were not more willing to buy the product ($M = 3.57$, $SD = 1.58$) than were those who read low quality reviews ($M = 3.22$, $SD = 1.76$), $F(1, 242) = 3.62$, $p = .06$, $\eta_p^2 = .02$ (H1-4a). Likewise, those who read high quality reviews did not suggest higher price for the product ($M = 19926.53$ won, $SD = 11594.51$ won) than did those who read low quality reviews ($M = 17358.94$ won, $SD = 11583.12$ won), $F(1, 242) = 1.67$, $p = .20$, $\eta_p^2 = .01$ (H1-4b). Also, those who read reviews with profile photos were not more willing to buy the product ($M = 3.39$, $SD = 1.66$) than were those who read reviews with figures ($M = 3.42$, $SD = 1.70$), $F(1, 242) = .015$, $p = .90$, $\eta_p^2 < .001$ (H2-4). Likewise, those who read reviews with profile photos did not suggest higher price

for the product ($M = 18482.38$ wins, $SD = 11365.83$ wins) than were those who read reviews with figures ($M = 18852.48$ wins, $SD = 11927.23$ wins), $F(1, 242) = .02, p = .89, \eta_p^2 < .001$. In addition, results showed that there was no significant interaction between product type and reviewer representation on purchase intention, failing to support H3-2, $F(1, 242) = .87, p = .35, \eta_p^2 = .004$.

Cognitive reactions

Third, 2 (photo vs. figure) x 2 (experience goods vs. search goods) x 2 (high quality argument vs. low quality argument) ANCOVAs with prior experience with the product and frequency of using online shopping mall as covariates were performed on recall of reviews and recognition of product descriptions, since those two DVs were not significantly correlated ($r = .04, p = .56$) (see Table 8 for significant results).

Results showed that reviewer representation had a significant main effect on recognition of product descriptions (RQ2-3). To be specific, those exposed to figures were more likely to remember product descriptions correctly ($M = 2.41, SD = .97$) than were those exposed to photos ($M = 2.16, SD = 1.00$). However, those who read reviews with profile photos did not recall more or less information in reviews ($M = 3.20, SD = 1.58$) than did those who read reviews with figures ($M = 3.37, SD = 1.39$), $F(1, 232) = .57, p = .45, \eta_p^2 = .002$ (RQ2-2). Meanwhile, there emerged an unexpected main effect of product type, such that those who read reviews of vitamin remembered product descriptions more correctly ($M = 2.48, SD = .90$) than did those who read game reviews ($M = 2.11, SD = 1.04$). The summary of hypothesis tests is shown in Table 9.

Table 8. Effects on cognitive reactions

IV	DV	F(1, 242)	p	η_p^2
Reviewer representation	Recognition of product description	5.03	.03	.02
Product type	Recognition of product description	5.32	.02	.02

Table 9. Summary of results

IV	RQ or H	DV	Result
Review quality	H1-1	Reviewer eval	Supported
	H1-2	Mall eval	Supported
	H1-3	Product eval	Supported
	H1-4	Purchase intention	Not supported
Reviewer representation	RQ2-1	Social presence	No effect
	H2-1	Reviewer eval	Not supported
	H2-2	Mall eval	Not supported
	H2-3	Product eval	Not supported
	H2-4	Purchase intention	Not supported
	RQ2-2	Recall of reviews	No effect
Product type & Review quality	RQ3-1	Product eval	No effect
	RQ3-2	Purchase intention	Vitamin: high quality > low quality Game: no difference
Product type & Reviewer representation	H3-1	Product eval	Not supported
	H3-2	Purchase intention	Not supported

Discussion

The current study conducted a web-based experiment to shed light on the effects of review quality and reviewer representation and to identify the role of product type (experience goods vs. search goods) in moderating their effects. Overall, the findings suggested that review quality exerted strong influence on affective reactions such as evaluations of the reviewers, the shopping mall, and the target product. At the same time, reviewer's profile photos did not directly evoke more or less affective reactions, but they made people more likely to differentiate high quality reviews from low quality reviews, with high quality reviews eliciting more positive mall evaluation than low quality reviews. In addition, the photos hindered correct recognition of product descriptions, although they did not significantly alter the recall of the review content. Finally, product type interacted with review quality, such that high quality reviews significantly increased the willingness to buy search goods, but not experience goods.

Theoretical implications

This study confirms the previous literature on the effects of review quality and extends it by focusing not only on product evaluation, but also on reviewer and mall evaluation. Previous studies found that the quality of product reviews has a positive effect on product attitudes. For example, Park et al. (2007) showed that the reviews containing sufficient, product-related evidence increased purchase intention of the product when compared with the reviews containing mainly vacuous emotional expression without evidence. The present study offers a similar finding in that high quality positive reviews positively affected product evaluation, although it did not lead to increased purchase intention. Additionally, this study postulated that the quality of reviews might play an important role in forming attitudes toward the reviewer and the mall, which have been relatively neglected in previous research. Results showed that the quality of reviews was an

important determinant of positive reviewer evaluation, and more importantly, favorable mall evaluation. On one level, this finding raises the possibility that source perception can be extended beyond the direct writer or speaker of the message: that is, the perception of the website which merely offers the space for consumers to share their opinions and product experience can be affected by the quality of those contributions. This has a practical implication, not only for e-commerce sites necessitating consumers' reviews, but also for any participatory websites. Promising a monetary or reputational bonus to contributors who produce high quality messages can indeed have a significant impact on developing a positive image of the website, therefore potentially granting it a competitive edge in the long term. On the other hand, this result can also imply that people tend to misattribute the source of information. That is, it is unclear that people indeed differentiated the website from the reviewers when asked to evaluate each source, considering the rather high correlation between reviewer and mall evaluation ($r = .63$).

Another contribution of the present study pertains to the roles of profile photos. First of all, profile photos did not promote the presence of the reviewers compared to abstract figures. This counterintuitive result is similar to Nowak and Biocca's (2003) finding that the less anthropomorphic avatar evoked stronger sense of presence than did the more anthropomorphic avatar. Although the researchers attributed the seemingly incomprehensible result to the strange and thus potentially attention-gaining appearance of the less humanlike avatar (eyes and mouth), it may be partly due to the existence of other cues to verify the person. In their experiment, both avatars were presented with the same human voice. In the present experiment, the photo condition and the figure condition had demographical information such as age, sex, and a part of the real name of the reviewer. Although this was an attempt to give the same amount of personal information to both conditions, since sex and age can be easily inferred from photos, this manipulation might have resulted in lessening the perceived difference

between photos and figures. In other words, people might have felt enough presence based on demographical information (the current study) or vocal cue (Nowak & Biocca, 2003). Alternatively, the casual and colloquial communication style, and the small size of photos might be accountable for the null effect, in that the former might have increased the overall level of presence (Daft & Lengel, 1986), and the latter could have weakened the vividness of photos (Lombard et al., 2000). Back to the discussion on the existence of other identity-related cues, the same logic can be applied to the understanding of no direct effects on the evaluations of the reviewers, the mall, and the product. That is, the provision of sufficient information available to verify the reviewers in the figure condition could have generated the feeling of knowing the reviewers, and heightened perceived credibility of reviewers just as in the photo condition. Consequently, people were not more or less inclined to react positively to the reviewers' photos than figures with respect to reviewer, mall, and product evaluation. In short, these results show that when other verifiable cues for the source's identity are given, there may be no need for adding a pictorial depiction of the source to increase persuasiveness.

Meanwhile, photos exerted indirect influence on mall evaluation, in conjunction with review quality: that is, when reviews were presented with reviewers' photos, high quality reviews led to more positive mall evaluation than did low quality reviews, whereas reviews without photos did not show such difference. One potential explanation is that photos might have drawn people's attention to the text message, thus heightening the elaboration likelihood to the extent that high quality reviews get more credits. On a surface level, the finding that participants remembered the product descriptions more correctly in the figure condition than in the photo condition seems to challenge this conjecture. However, more in-depth analysis reveals that those two findings may not be contradictory to each other. This apparent distraction occurred only regarding product description, not review messages. Put differently, photos seem to play two different roles in the elaboration of the textual message depending on the direct

source: facilitation for the message directly given by the source who is being represented by the photos (e.g., reviews), hindrance for the other messages from a different source (e.g., product description). Unfortunately, because those who read reviews with photos did not recall more or less review content than did those who read reviews without photos, no definite conclusion could be derived from the current data. Still, considering the weaker recognition of product descriptions, and greater tendency to differentiate high quality reviews from low quality reviews when presented with photos, it seems worthwhile to further pursue the possibility that when the particular source appears visually vivid, people might focus more on what the source delivers, but less on other messages not directly delivered by the source. Another point to make in terms of the interaction is that reviewers' photos seem not to help but harm mall evaluation, when combined with low quality reviews. This result gives a practical implication that a shopping mall website may not benefit from simply adding more visual features such as profile pictures of reviewers.

Another interesting implication of the present study has to do with the moderating role of product type. Results showed that in the search goods condition, high quality reviews led to higher willingness to buy the target product than did low quality reviews, whereas such difference did not appear in the experience goods condition. This may suggest that people have a different mindset or expectancy toward each product type: that is, people might expect the search goods reviews to contain more objective, reasonable, and factual knowledge of the product, presumably because it is relatively easy to derive such information from the search goods and verbally enumerate it. Reviews for experience goods, on the contrary, might be expected to be a personal essay depicting one's subjective feelings and experiences without the obligation to provide objective knowledge. Thus, people could have been more motivated to engage in central processing of the search goods reviews because there lies a higher possibility to gain objective product information. At the same time, the present study also provides a clearer

understanding of the role of others' opinions in forming attitudes concerning experience goods. Previous studies showed that the mere presence of consumer feedback (Huang et al., 2009), and the valence of reviews (Park & Lee, 2009) exerted greater influence on the evaluation of experience goods than that of search goods. Extending this line of literature, the present study shows that it is not review quality that determines consumers' attitudes toward the experience goods. Considering the aforementioned studies and the current finding, consumers seeking experience goods seem to exert less cognitive effort in the elaboration of review messages, rather focusing more on other easily acquired cues such as whether there exists consumer feedback for the product or not, or whether the feedback is positive or negative.

Limitations and future directions

Some limitations of the present study merit note. First, as noted previously, providing much demographical information such as age, sex, and part of the real name of the reviewers could have narrowed the difference between photos and figures. On one hand, the current result implies that as long as the same amount of identity-relevant information is provided, the addition of profile photos does not significantly enhance or weaken the perceived presence, or attitudes toward the source or the issue. On the other hand, however, because the key information which can be inferred from photos was also presented in the no-photo condition, this method of manipulation could have artificially blurred the inherent advantage of photos. In addition, it is unclear which specific information among age, sex, and name triggered the figures to be at the similar level to the photos in presence and various attitudes. Thus, future research should diversify the conditions by varying the amount of personal information about the source, and compare each of them with the photo condition, in order to clarify which cues neutralize the effects of photo.

Second, the way social presence was operationalized might be partly

accountable for the lack of difference between photos and figures. The present study defined social presence as the extent to which the communication felt like a face-to-face meeting, and measured it by items such as “I felt as if I were engaging in an actual conversation with the reviewers,” “I felt as if the reviewers were speaking directly to me.” Interestingly, previous studies which could not find the positive influence of human-like avatar or human picture on social presence (Nowak & Biocca, 2003; Kang et al., 2008) employed very similar items to measure social presence. Studies which showed the effects of anthropomorphism (Choi et al., 2001; Gong, 2008), on the contrary, used Short, Williams, and Christie’s (1976) original social presence scale to capture how sociable, personal, sensitive, and warm the communication was perceived to be. As such, it might be the case that photos or human-like avatars do not increase the feeling of direct interaction, but are effective in inducing human warmth. Thus, future research should investigate the effects of vivid source representation or anthropomorphism using both measures and compare how the effects vary depending on the measurement.

Third, this research may also have limited generalizability in that it employed only one product for each product type: a computer game for experience goods, vitamin for search goods. Although the pilot test confirmed that both products are not different in ego-involvement among average college students, and whether each participant had a prior experience with the product or not was controlled in the analyses, the choice of items might have exerted unpredicted effects by the virtue of their particular characteristics. In fact, results showed that product type directly affected the evaluations of the reviewers, the product, and the shopping mall. Specifically, the game evoked more positive evaluations for the reviewers and the shopping mall than did the vitamin, whereas the vitamin led to more positive product evaluation than did the game. Still, it is hard to argue that other products in each category would have the same effects, since the results could have been derived from the particular attributes of the selected products. One

potential explanation is that the computer game might have been perceived as more entertaining and “cool” than vitamin pills, and thus those attitudes may have been transferred to and reflected in the evaluation of the reviewer, and the mall. Given Hassanein and Head’s finding (2007) that the element of enjoyment is an important determinant of online shopping mall evaluations, this explanation seems plausible. With respect to product evaluation, on the contrary, computer games are not normally considered as a daily necessity such as vitamin pills, and thus could have been evaluated relatively lower in the measurement items such as “needed,” “beneficial”, “useful”. Although these main effects were not of interest in the present study, future research which aims to examine how product type moderates the effects of consumer reviews on people’s attitudes toward the product might benefit from employing various products for each product type.

Fourth, the present study used dominantly positive reviews (five positive reviews, one negative review). Considering the previous studies’ findings that negative reviews tend to exert greater influence on consumers’ attitudes than positive reviews (Park & Lee, 2009), the current study can be a more rigorous test for exploring the effects of reviews. It is also possible, however, valence of reviews might exert different influence, for example, depending on product type. While consumers seeking experience goods may be more affected by the overall review valence, given that they were found to care less about the review quality in this study, consumers seeking search goods may be less affected by the review valence, being more alert in quality perception of reviews. Thus, it would be interesting to see if any different results appear by using mostly negative reviews or half positive/half negative reviews.

Fifth, regarding the type of photos, the present study only employed the profile photos at the neutral level of attractiveness. Previous research which identified the roles of photos or human-like avatars has shown that as a specific attribute of photo/avatar varies, the effects of them vary as well. For example, Holzwarth et al. (2006) found that physically attractive avatars (younger, thinner,

athletic) were more effective in sales when consumers were at a moderate level of product involvement. Therefore, future studies should compare abstract figures with photos/avatars showing different levels of attractiveness, or expertise to see if the varying characteristics of them make certain difference in evaluations of source and product, also depending on the product type.

Sixth, only college students were recruited as participants in the experiment. Considering that young adults are more likely to elaborate on given messages, and therefore more likely to be affected by the argument quality than by peripheral cues (Wang & Chen, 2006), the strong effects of review quality might have resulted from the inherently high tendency to engage in central processing. On the other hand, Sundar (2008) suggested that today's youth make rather quick judgments about the credibility of the online information based on several heuristics. Thus, it is unclear whether college-age participants are accountable for the strong effects of review quality, or if they are rather more conservative targets. Future studies should therefore replicate the present study with participants recruited from the general public.

Lastly, as a final suggestion for future studies, it might be interesting to see which type of self-representation among real human photos, avatars, and abstract figures people actually choose as reviewers. Results might reflect their preferences of other reviewers; that is, if they prefer to see real photos of reviewers and believe the photos help their decisions, they also might be inclined to use their own photos when writing a feedback. It is also possible, however, they might act differently regardless of their expectation toward other reviewers, for example, by choosing avatars or abstract figures being concerned with their identity exposure. Thus, it needs further investigation to see if people's behaviors show either a mirror image of the current study or inconsistency between beliefs and behaviors.

Conclusion

To elucidate which elements of online product reviews determines the consumers' attitudes toward the product and their purchase intention, the present experiment focused on review quality, and reviewers' profile photos. Despite the common expectation that exposure to one's profile photo would promote the feeling of direct interaction, therefore intimacy or credibility, such effects were not found. In general, people seem to engage in central processing, and are thereby more affected by review quality when in a transactional situation. One point that merits note is that the central processing seems to be limited to certain products which can be easily described in a verbal manner (i.e., search goods). Possibly, this finding suggests the existence of different pre-existing mindsets of consumers for each product type, which affect how they process the product-relevant messages.

Online product reviews from consumers have become a signature characteristic of e-commerce. Aside from their function to compensate the uncertainty inherent in online shopping activities, they may serve as an advantage of e-commerce over offline transactions, such that they provide helpful information based on others' firsthand experience, which can rarely be obtained at the spot of offline transactions. Given their importance, it seems imperative to empirically examine their effects on consumers' attitudes, by focusing on communication processes and various attributes of reviews and their effects. The present study represents one such attempt and should prompt further research on how certain elements of reviews might alter the ways in which people makes sense of a product and the seller.

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국문 초록

온라인 상품평의 질과 상품평 작성자의 사진이 상품 및 쇼핑물에 대한 소비자 평가에 미치는 영향 : 상품 유형의 중재 효과

본 연구는 온라인 상품평의 질과 상품평 작성자의 사진이 소비자의 태도 형성에 미치는 효과를 밝히고자 했다. 이와 동시에, 상품 유형이 상품평의 질과 작성자 사진의 효과에 어떠한 변화를 줄 수 있는지, 즉 상품 유형의 중재 효과 가능성에 대해서 살펴 보았다. 이를 위해, 2 (상품평의 질: 높음 vs. 낮음) x 2 (상품평 작성자 표현: 실제 사진 vs. 도형) x 2 (상품 유형: 경험재 vs. 검색재) 요인설계를 적용한 실험을 252 명의 대학생들을 대상으로 온라인에서 실시했다. 실험에 사용된 상품평들은 대부분 해당 상품에 대해 긍정적인 태도를 취하도록 고정되었다. 실험 결과 발견된 주요한 결과는 다음과 같다. 먼저, 고품질 상품평을 읽은 참여자들의 경우, 저품질 상품평을 읽은 참여자들에 비해 상품평 작성자, 해당 상품, 그리고 온라인 쇼핑몰 웹사이트를 더욱 긍정적으로 평가하는 경향을 보였다. 다음으로, 상품평 작성자들의 사진은 도형(느낌표)과 사회적 실재감에서 차이를 보이지 않았으며, 나아가 상품평 작성자, 해당 상품, 그리고 쇼핑몰 웹사이트에 대한 평가에서도 차이를 보이지 않았다. 하지만, 사진이 있을 때, 사람들은 고품질 상품평을 읽었을 때, 저품질 상품평을 읽었을 때에 비해 더 쇼핑몰을 긍정적으로 평가하는 경향을 보였다. 또한, 사람들은 사진을 보았을 때 판매자로부터 주어진 상품 설명을 정확히 기억하지 못하는데 반해, 상품평의 내용을 기억하는 능력에서는 사진을 보지 못한 사람들과 차이가 없었다. 마지막으로, 상품 유형은 상품평 작성자의 사진과는 상호작용이 없었지만, 상품평의 질과의 상호작용효과가 존재했다. 즉, 실제 구매 후 경험하기 이전에도 쉽게 상품의 질을 예측할 수 있는 “검색재”의 경우, 고품질 상품평이 저품질 상품평에 비해 상품 구매 의사를 더 증가시켰지만, 실제 경험 없이 상품의 품질을 측정하기 어려운 “경험재”의 경우에는

고품질 상품평과 저품질 상품평 간에 구매 의사 차이가 나타나지 않았다. 이상의 결과들이 갖는 이론적 및 실용적 함의를 논의에 제시했다.

주요어: 온라인 상품평, 온라인 쇼핑, 상품평 품질, 상품평 작성자 사진, 상품 유형, 소비자 평가

학번: 2010-23005